

Southern Appalachian Creature Feature Podcasts

Disease and biodiversity

Greetings and welcome to the Southern Appalachian Creature Feature.

When it comes to endangered species conservation and the broader argument for protecting biodiversity – which includes not only the diversity of species, but also genes on a smaller level, and natural communities on a larger level, perhaps the most fundamental question is why?

One of the myriad answers to that question is that biodiversity provides benefits to humans, and in fact a healthy web of life is fundamental to our well being. This point was recently brought home in a way many of us can relate to – disease. A recent issue of the journal *Nature* included a paper that looked at how impacts to biodiversity can affect the emergence and transmission of infectious disease.

One of the examples described by researchers was Lyme disease. Lyme disease is transmitted to humans through tick bites, the tick becoming infected when it feeds on the blood of an infected animal. Opossums are extremely efficient at grooming off and killing ticks, which means a tick killed by an opossum won't survive to infect a human. However, the ticks can also feed on mice – which aren't nearly as good as grooming off and killing the ticks. However, as adaptable to human development as the opossum is, it isn't nearly as adaptable as mice, which means if we develop to the point we lose our opossums, we're eliminating a source of tick control, and with it, a check on Lyme disease.

For WNCW and the U.S. Fish & Wildlife Service, this is Gary Peeples.